

## **Natural Resources Geographic Information Systems (NR-GIS)**

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The purpose of this report is to provide the City of Lincoln and Lancaster County community with a synopsis of the results of the Natural Resources-Geographic Information System (NR-GIS). The NR-GIS endeavor was initiated and fostered under the sponsorship of the City of Lincoln-Lancaster County Planning Department as part of its ongoing geographic information system (GIS) program.

The balance of this report is divided into seven sections offering the reader a look at each individual natural resources element. The natural environment of Lancaster County is composed of many elements, including topography and climate, soils, surface water systems, wetlands, groundwater systems, habitat and vegetation, and wildlife. While this summary report addresses these elements separately, in reality they remain very interconnected. This connectivity is crucial to understanding the natural resources in Lancaster County and is the reason for overlap in several sections of this report.

### **Purpose, Goals and Objectives of NR-GIS**

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The primary purpose of the City of Lincoln-Lancaster County Natural Resources-Geographic Information System (NR-GIS) is to bring together pertinent natural resources information in a digital form about Lancaster County (Nebraska) for use in the community's on-going planning process.

At its inception, the NR-GIS study team identified a series of goals and objectives for the effort. These were as follows:

- *The goal of NR-GIS is to provide a factual foundation for integrating natural resources information into the City and County comprehensive and short range planning processes.*
- *The knowledge and analytical tools resulting from this endeavor should serve to plan and implement land use strategies reflecting urban and rural development patterns that are respectful of the earth's natural features and systems.*
- *NR-GIS should also serve to advance the community's awareness and appreciation for the connection and relationships between natural features and the built environment.*

These goals were then used to craft a series of nine objectives serving to further detail the program's intended purpose. These objectives were as follows:

1. Create a unified, well-documented digital information and graphic system (i.e., GIS) encompassing a wide breadth of natural resources features for all of Lancaster County and other surrounding areas as applicable.
2. Utilize readily available digital natural resources information wherever possible, being careful to ensure the integrity and applicability of that data to the planning process.
3. Enhance and expand the natural resources information base where it may not exist today. This may require that we: (a) create digital files from current hard copy data sets; (b) interpret and refine existing digital and hard copy data; and (c) conduct judicious development of natural resources information through primary data collection efforts.

4. Enlist technical assistance for interpreting NR-GIS data and the relationship of that data to the land use policies and strategies of the City-County planning processes.
5. Develop computerized analytical tools and applications that allow professionals in planning, development and allied fields to increase their natural resources literacy and to ensure the broad application of NR-GIS information throughout the planning process.
6. Afford appropriate and timely access to NR-GIS information by City and County staff and the Lincoln-Lancaster County community as a whole.
7. Publish pertinent findings in both traditional hard copy versions and through emerging communication technologies.
8. Work to ensure the long term maintenance and expansion of NR-GIS as a centralized information source for the City and County.
9. Seek to utilize non-City/County funding opportunities (i.e., grants and other contributions of services) that can be applied to the future growth and use of NR-GIS.

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## **NR-GIS Context**

The NR-GIS program was initiated in the spring of 2000 to support the planned preparation of a new *City-County Comprehensive Plan* during calendar year 2001. This new *City-County Comprehensive Plan* will establish the land use and transportation planning framework for the future of the greater Lincoln-Lancaster County community over the next twenty or more years. This planning framework will serve as the basis for formulating critical community policies governing development patterns, public infrastructure, phasing, and environmental preservation.

The City of Lincoln and Lancaster County are approaching a watershed point in their common history. Both the City and County face important public policy challenges that will determine the face of urban and rural development for decades to come. The extension of urbanization into new drainage basins will not only transform the character of areas along the City's fringe, but will also alter the character of the natural features that remain as part of our current urban fabric. The appearance of our rural areas seemingly removed from today's Lincoln will similarly be affected as the county's smaller towns and villages continue to blossom, further low density acreage development occurs, and farming operations evolve to meet the challenges of an ever changing marketplace.

As the community works to craft this new *City-County Comprehensive Plan* during calendar 2001, it is imperative that the planning process gives thoughtful consideration of the natural features that form our county's environmental setting. These critical elements of the comprehensive planning process deserves careful and deliberate attention based upon sound, fully integrated information sources. A fundamental understanding of the natural environment logically serves as the point of departure for next year's planning activities. This will ensure that natural resources features will help guide the future of the built environment in such a way as to both preserve and enhance our community's natural heritage.